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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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	Application No.	Applicant(s)				
	10/711,933	WU ET AL.				
Office Action Summary	Examiner	Art Unit				
	Henok G. Heyi	2627				
The MAILING DATE of this communication appears on the cover sheet with the correspondence address Period for Reply						
A SHORTENED STATUTORY PERIOD FOR REPLY WHICHEVER IS LONGER, FROM THE MAILING DOWN THE MAILING TH	ATE OF THIS COMMUNICATION 36(a). In no event, however, may a reply be tir vill apply and will expire SIX (6) MONTHS from , cause the application to become AB ANDONE	N. nely filed the mailing date of this communication. D (35 U.S.C. § 133).				
Status						
Responsive to communication(s) filed on  2a) ☐ This action is FINAL. 2b) ☒ This  3) ☐ Since this application is in condition for alloware closed in accordance with the practice under E	action is non-final. nce except for formal matters, pro					
Disposition of Claims						
4) ⊠ Claim(s) 1-33 is/are pending in the application 4a) Of the above claim(s) is/are withdray 5) □ Claim(s) is/are allowed 6) ⊠ Claim(s) 1-33 is/are rejected. 7) ⊠ Claim(s) 22 and 23 is/are objected to 8) □ Claim(s) are subject to restriction and/o	wn from consideration.					
Application Papers						
9) ☐ The specification is objected to by the Examine 10) ☑ The drawing(s) filed on 13 October 2004 is/are Applicant may not request that any objection to the Replacement drawing sheet(s) including the correct 11) ☐ The oath or declaration is objected to by the Example 2015 in the content of the correct 11.	: a)⊠ accepted or b)□ objected drawing(s) be held in abeyance. Se tion is required if the drawing(s) is ob	e 37 CFR 1.85(a). ojected to. See 37 CFR 1.121(d).				
Priority under 35 U.S.C. § 119	•					
12) ⊠ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  a) ⊠ All b) □ Some * c) ⊠ None of:  1. ☑ Certified copies of the priority documents have been received.  2. □ Certified copies of the priority documents have been received in Application No  3. □ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  * See the attached detailed Office action for a list of the certified copies not received.						
Attachment(s)  1) Notice of References Cited (PTO-892)  2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  3) Information Disclosure Statement(s) (PTO/SB/08)  Paper No(s)/Mail Date	4) Interview Summary Paper No(s)/Mail D 5) Notice of Informal I 6) Other:	ate				

Art Unit: 2627

## **DETAILED ACTION**

## Specification

1. Claims 22 and 23 are objected to because of the following informalities: In claim 22, on line 9 DAO was supposed to be short for disc-at-once as it is described in the specification but in the claim it is misspelled.

In claim 23 also there is a similar misspelling of track-at-once (TAO).

Appropriate correction is required.

## Claim Rejections - 35 USC § 103

- 2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:
  - (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 1-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Green et al. US 7,117,230 B1 (Green hereinafter) and further in view of Nakai US 6,928,567 B2.

Re claim 1, Green discloses a method for identifying the track capacity of a track of an optical disk in an optical disk drive (the media capacity calculation, col 17 line 13), the method comprising: checking if any track of a session (the terms "track" and "session," as they apply to CD optical media and as used herein, col 6 line 67. having a target track (mapping out a precise target destination for the selected files, col 1 line 41 has link blocks (User data in the first fixed packet track includes packets separated by link

blocks, col 16 line 11.; and calculating track capacity of the target track according to its write mode (used in fixed packet mode, col 15 line 43). But Green fails to teach specifically about determining the write mode of the target track. However, Nakai discloses about the different writing mode that could be used (In this embodiment, four recording methods of disk-at-once (DAO), track-at-once (TAO), session-at-once (SAO), and packet writing are possible, col 10 line 65). Fig. 13 also shows a process for determining a recording mode as a processing operation for realizing a system control operation corresponding to each recording mode. Therefore, the combined teaching of Green and Nakai would have rendered obvious to identify track capacity by using the methods of checking for link blocks, determining write mode and finally calculating track capacity according to the write mode being used.

Re claim 2, Green teaches the method of claim 1 further comprising utilizing the optical disk drive to access the program memory area (PMA) of the optical disk and the table of contents (TOC) of the session having the target track (Block 142 contains the Program Memory Area (PMA) and session Lead-In, col 13 line 22), wherein step (c) further comprises setting actual capacity of the target track as the size of the target track excluding its pre-gap in the case that either the TOC exists but the PMA does not or the TOC and PMA exist but the track information of the session is not recorded in the PMA (although a pre-gap 266 is not user data, it is a multi-track structure that is not mapped out of Method 2 addressing, col 16 line 24).

Art Unit: 2627

Re claim 3, Green teaches about packet writing but doesn't teach about DAO, SAO and the like. However, Nakai teaches the method of claim 2, wherein the write mode of the target track is disc-at-once (DAO), session-at-once (SAO), or RAW (In this embodiment, four recording methods of disk-at-once (DAO), track-at-once (TAO), session-at-once (SAO), and packet writing are possible, col 10 line 65). Therefore, the combined teaching of Nakai and Green as a whole would have rendered obvious to choose one or all of the four write modes for recording.

Re claim 4, Green teaches the method of claim 1 further comprising utilizing the optical disk drive to access the program memory area (PMA) of the optical disk and the table of contents (TOC) of a session having the target track (Block 142 contains the Program Memory Area (PMA) and session Lead-In, col 13 line 22), wherein step (b) further comprises determining whether the write mode of the target track is a packet-write mode according to contents of the PMA in the case that the TOC does not exist but the PMA exists and the track information of the session is recorded in the PMA (packet writing to an optical media consists of writing packets of data of either a fixed or variable size, the size being pre-determined, col 14 line 52).

Re claim 5, Green teaches the method of claim 4, wherein step (c) further comprises setting actual capacity of the target track as the size of the target track excluding its pregap (although a pre-gap 266 is not user data, it is a multi-track structure that is not mapped out of Method 2 addressing, col 16 line 24) and last two link blocks when the

write mode of the target track is not a packet-write mode (Method 2 addressing is used in fixed packet mode with the periodicity of the link blocks enabling the device mapping to ignore link blocs to present the logical addressing of user data as a contiguous stream of blocks with no link blocks, col 15 line 42).

Re claim 6, Green teaches the method of claim 4, further comprising accessing the track descriptor block (TDB) of the target track (a Partition Descriptor (PD) specifies the partition size on media, col 9 line 55) to determine whether the write mode of the target track is a fixed packet write (FPKT) or variable packet write (VPKT) when its write mode is a packet-write mode (packet writing to an optical media consists of writing packets of data of either a fixed or variable size; col 14 line 53).

Re claim 7, Green teaches the method of claim 6, wherein step (c) further comprises setting actual capacity of the target track as the size of the target track excluding its pregap and last two link blocks (Method 2 addressing is used in fixed packet mode with the periodicity of the link blocks enabling the device mapping to ignore link blocs to present the logical addressing of user data as a contiguous stream of blocks with no link blocks, col 15 line 42) when the write mode of the target track is VPKT (packet writing to an optical media consists of writing packets of data of either a fixed or variable size, col 14 line 53).

Art Unit: 2627

Re claim 8, Green teaches the method of claim 6, wherein step (c) further comprises setting actual capacity of the target track as the size of the target track excluding its pregap and all link blocks when the write mode of the target track is FPKT (Method 2 addressing is used in fixed packet mode with the periodicity of the link blocks enabling the device mapping to ignore link blocs to present the logical addressing of user data as a contiguous stream of blocks with no link blocks, col 15 line 42).

Re claim 9, Green teaches the method of claim 1 further comprising utilizing the optical disk drive to access the program memory area (PMA) of the optical disk and the table of contents (TOC) of a session having the target track (Block 142 contains the Program Memory Area (PMA) and session Lead-In, col 13 line 22), and determining if any track of the session exists in a packet-write mode, wherein step (c) further comprises determining whether the write mode of the target track is a fixed packet write (FPKT) or variable packet write (VPKT) by accessing the track descriptor block (TDB) of the target track when the TOC and PMA exist (packet writing to an optical media consists of writing packets of data of either a fixed or variable size, col 14 line 53), the track information of the session is recorded in the PMA, and the session has a track in packet-write mode.

Art Unit: 2627

Re claim 10, Green teaches the method of claim 9, wherein step (c) further comprises setting actual capacity of the target track as the size of the target track excluding its pregap and last two link blocks (Method 2 addressing is used in fixed packet mode with the periodicity of the link blocks enabling the device mapping to ignore link blocs to present the logical addressing of user data as a contiguous stream of blocks with no link blocks, col 15 line 42) when the write mode of the target track is VPKT (packet writing to an optical media consists of writing packets of data of either a fixed or variable size, col 14 line 53).

Re claim 11, Green teaches the method of claim 9, wherein step (c) further comprises setting actual capacity of the target track as the size of the target track excluding its pregap and all link blocks when the write mode of the target track is FPKT (Method 2 addressing is used in fixed packet mode with the periodicity of the link blocks enabling the device mapping to ignore link blocks to present the logical addressing of user data as a contiguous stream of blocks with no link blocks, col 15 line 42).

Re claim 12, Green teaches the method of claim 1, further comprising utilizing the optical disk drive to access the program memory area (PMA) of the optical disk and the table of contents (TOC) of a session having the target track (Block 142 contains the Program Memory Area (PMA) and session Lead-In, col 13 line 22), and determining if any track in the session exists in a packet-write mode, wherein step (c) further

comprises setting the actual capacity of the target track as the target track excluding its pre-gap and last two link blocks (Method 2 addressing is used in fixed packet mode with the periodicity of the link blocks enabling the device mapping to ignore link blocs to present the logical addressing of user data as a contiguous stream of blocks with no link blocks, col 15 line 42) when the TOC and PMA exist and the track information of the session is recorded in the PMA, the session has no track in packet-write mode, and in step (a) the track of the session has link blocks.

Re claim 13, Green teaches the method of claim 1, further comprising utilizing the optical disk drive to access the program memory area (PMA) of the optical disk and the table of contents (TOC) of a session having the target track (Block 142 contains the Program Memory Area (PMA) and session Lead-In, col 13 line 22), and determining if any track in the session exists in a packet-write mode, wherein step (c) further comprises setting the actual capacity of the target track as the size of the target track excluding its pre-gap (Method 2 addressing is used in fixed packet mode with the periodicity of the link blocks enabling the device mapping to ignore link blocs to present the logical addressing of user data as a contiguous stream of blocks with no link blocks, col 15 line 42) when the TOC and PMA exist and the track information of the session is recorded in the PMA, the session has no track in packet-write mode, and in step (a) no track of the session has link blocks.

Art Unit: 2627

Re claim 14, Green teaches the method of claim 1, wherein the optical disk drive is a read-only optical disk drive or a recordable optical disk drive (Examples of the computer readable medium include read-only memory, random-access memory, CD-ROMs, CD-Rs, CD-Rws, DVD-ROM, DVD-R/RW, DVD-RAM, DVD+R/+RW, magnetic tapes, and other optical data storage devices, col 22 line 63).

Re claim 15, Green teaches an optical disk drive for utilizing the method of claim 1 to identify track capacity of a track of an optical disk (the media capacity calculation, which is a factor in the background initialization process, remaining space calculations, and the like, is one example of a media space calculation, col 17 line 13).

Re claim 16, Green teaches a method for determining the write mode of a track of an optical disk in an optical disk drive, the method comprising: utilizing the optical disk drive to determine if any track of a session having a target track has link blocks (link blocks written between two packets of user data, col 14 line 55), but Green doesn't specifically teach about determining the writing mode. However, Nakai teaches about determining the write mode of the target track accordingly (In this embodiment, four recording methods of disk-at-once (DAO), track-at-once (TAO), session-at-once (SAO), and packet writing are possible, col 10 line 65).

Re claim 17, Green teaches the method of claim 16, further comprising utilizing the optical disk drive to access the program memory area (PMA) of the optical disk and the

Art Unit: 2627

table of contents (TOC) of a session having the target track (Block 142 contains the Program Memory Area (PMA) and session Lead-In, col 13 line 22), wherein if either the TOC exists but the PMA does not or the TOC and PMA exist but the track information of the session is not recorded in the PMA, but Green doesn't specifically teach about determining the writing mode. However, Nakai teaches about the write mode of the target track is disc-at-once (DAO), session-at-one (SAO), or RAW (In this embodiment, four recording methods of disk-at-once (DAO), track-at-once (TAO), session-at-once (SAO), and packet writing are possible, col 10 line 65).

Re claim 18, Green teaches the method of claim 16, further comprising utilizing the optical disk drive to access the program memory area (PMA) of the optical disk and the table of contents (TOC) of a session having the target track (Block 142 contains the Program Memory Area (PMA) and session Lead-In, col 13 line 22), wherein if the TOC does not exist but the PMA exists and the track information of the session is recorded in the PMA, but Green doesn't specifically teach about determining the writing mode. However, Nakai teaches about the write mode of the target track is packet-write mode or track-at-once (TAO) (In this embodiment, four recording methods of disk-at-once (DAO), track-at-once (TAO), session-at-once (SAO), and packet writing are possible, col 10 line 65).

Re claim 19, Nakai teaches the method of claim 18, further comprising determining whether the write mode of the target track is a packet-write mode (In this embodiment,

Art Unit: 2627

four recording methods of disk-at-once (DAO), track-at-once (TAO), session-at-once (SAO), and packet writing are possible, col 10 line 65) according to the contents of the PMA.

Re claim 20, Green teaches the method of claim 18, wherein step (b) further comprises accessing the track descriptor block (TDB) of the target track to determine whether the write mode of the target track is fixed packet write (FPKT) or variable packet write (VPKT) when the write mode is a packet-write mode (packet writing to an optical media consists of writing packets of data of either a fixed or variable size, col 14 line 53).

Re claim 21, Green teaches the method of claim 16, further comprising utilizing the optical disk drive to access the program memory area (PMA) of the optical disk and the table of contents (TOC) of a session having the target track, and to determine if any track of packet-write mode exists in the session (Block 142 contains the Program Memory Area (PMA) and session Lead-In, col 13 line 22), wherein step (b) further comprises determining the write mode of the target track is fixed packet write (FPKT) or variable packet write (VPKT) (packet writing to an optical media consists of writing packets of data of either a fixed or variable size, col 14 line 53) by accessing the track descriptor block (TDB) of the target track when the TOC and the PMA exist with recording the track information of the session and the session having a track of packet-write mode.

Art Unit: 2627

Re claim 22, Green teaches the method of claim 16, further comprising utilizing the optical disk drive to access the program memory area (PMA) of the optical disk and the table of contents (TOC) of a session having the target track (Block 142 contains the Program Memory Area (PMA) and session Lead-In, col 13 line 22), and to determine if any track of packet-write mode exists in the session, wherein if the TOC and PMA exist with recording the track information of the target track, no track of packet-write mode exists in the session, and no track of the session has link blocks in step (a), but Green doesn't specifically teach about determining the writing mode. However, Nakai teaches about the write mode of the target track is data-at-one (DAO), session-at-once (SAO), or RAW (In this embodiment, four recording methods of disk-at-once (DAO), track-at-once (TAO), session-at-once (SAO), and packet writing are possible, col 10 line 65).

Re claim 23, Green teaches the method of claim 16, further comprising utilizing the optical disk drive to access the program memory area (PMA) of the optical disk and the table of contents (TOC) of a session having the target track (Block 142 contains the Program Memory Area (PMA) and session Lead-In, col 13 line 22), and to determine if any track of packet-write mode exists in the session, wherein if the TOC and PMA exist with recording the track information of the target track, no track of packet-write mode exists in the session, and a track of the session has link blocks in step (a), the write mode of the target track is track-at-one (TAO) (the session was opened and a track-at-once (TAO) alignment track was written, col 13 line 48).

Re claim 24, Green teaches the method of claim 16, wherein the optical disk drive is a read-only optical disk drive or a recordable optical disk drive (Examples of the computer readable medium include read-only memory, random-access memory, CD-ROMs, CD-Rs, CD-RWs, DVD-ROM, DVD-R/RW, DVD-RAM, DVD+R/+RW, magnetic tapes, and other optical data storage devices, col 22 line 63).

Re claim 25, Nakai teaches an optical disk drive for utilizing the method of claim 16 to determine the write mode of a track of an optical disk (In this embodiment, four recording methods of disk-at-once (DAO), track-at-once (TAO), session-at-once (SAO), and packet writing are possible, col 10 line 65).

Re claim 26, Green teaches a method for identifying track capacity of a track of an optical disk in an optical disk drive (the media capacity calculation, which is a factor in the background initialization process, remaining space calculations, and the like, is one example of a media space calculation, col 17 line 13), the method comprising: (a) setting actual capacity of a target track as the size of the target track excluding its pregap when the write mode of the target track is a first type (Method 2 addressing is used in fixed packet mode with the periodicity of the link blocks enabling the device mapping to ignore link blocs to present the logical addressing of user data as a contiguous stream of blocks with no link blocks, col 15 line 42); and (b) setting actual capacity of the target track as the size of the target track excluding its pre-gap and at least a part of link blocks when the write mode of the target track is a second type (illustrating Method

Art Unit: 2627

1 addressing of a track on CD media. As is known, packet writing to an optical media consists of writing packets of data of either a fixed or variable size, the size being predetermined, and link blocks, also of a pre-determined size, written between two packets of user data, col 14 line 51); wherein the target track comprises a plurality of link blocks when its write mode is the second type.

Re claim 27, Nakai teaches the method of claim 26, wherein the first type of write mode is disc-at-once (DAO), session-at-once (SAO), or RAW (In this embodiment, four recording methods of disk-at-once (DAO), track-at-once (TAO), session-at-once (SAO), and packet writing are possible, col 10 line 65).

Re claim 28, Green teaches the method of claim 26, wherein the second type of write mode is track-at-once (TAO) (the session was opened and a track-at-once (TAO) alignment track was written, col 13 line 48), fixed packet write (FPKT), or variable packet write (VPKT) (packet writing to an optical media consists of writing packets of data of either a fixed or variable size, col 14 line 53).

Re claim 29, Green teaches the method of claim 28, further comprising setting actual capacity of the target track (the media capacity calculation, which is a factor in the background initialization process, remaining space calculations, and the like, is one example of a media space calculation, col 17 line 13) as the size of the target track

Art Unit: 2627

excluding its pre-gap (although a pre-gap 266 is not user data, it is a multi-track structure that is not mapped out of Method 2 addressing, col 16 line 24) and last two link blocks (Method 2 addressing is used in fixed packet mode with the periodicity of the link blocks enabling the device mapping to ignore link blocs to present the logical addressing of user data as a contiguous stream of blocks with no link blocks, col 15 line 42) when the write mode of the target track is TAO (the session was opened and a track-at-once (TAO) alignment track was written, col 13 line 48).

Re claim 30, Green teaches the method of claim 28, further comprising setting actual capacity of the target track (the media capacity calculation, which is a factor in the background initialization process, remaining space calculations, and the like, is one example of a media space calculation, col 17 line 13) as the size of the target track excluding its pre-gap (although a pre-gap 266 is not user data, it is a multi-track structure that is not mapped out of Method 2 addressing, col 16 line 24) and last two link blocks (Method 2 addressing is used in fixed packet mode with the periodicity of the link blocks enabling the device mapping to ignore link blocs to present the logical addressing of user data as a contiguous stream of blocks with no link blocks, col 15 line 42) when the write mode of the target track is VPKT (packet writing to an optical media consists of writing packets of data of either a fixed or variable size, col 14 line 53).

Re claim 31, Green teaches the method of claim 28, further comprising setting actual capacity of the target track (the media capacity calculation, which is a factor in the

background initialization process, remaining space calculations, and the like, is one example of a media space calculation, col 17 line 13) as the size of the target track excluding its pre-gap (although a pre-gap 266 is not user data, it is a multi-track structure that is not mapped out of Method 2 addressing, col 16 line 24) and all link blocks (Method 2 addressing is used in fixed packet mode with the periodicity of the link blocks enabling the device mapping to ignore link blocs to present the logical addressing of user data as a contiguous stream of blocks with no link blocks, col 15 line 42) when the write mode of the target track is FPKT (packet writing to an optical media consists of writing packets of data of either a fixed or variable size, col 14 line 53).

Re claim 32, Green teaches the method of claim 26, wherein the optical disk drive is a read-only optical disk drive or a recordable optical disk drive (Examples of the computer readable medium include read-only memory, random-access memory, CD-ROMs, CD-Rs, CD-Rws, DVD-ROM, DVD-R/Rw, DVD-RAM, DVD+R/+Rw, magnetic tapes, and other optical data storage devices, col 22 line 63).

Re claim 33, Green teaches an optical disk drive for utilizing the method of claim 26 to identify track capacity of a track of an optical disk (the media capacity calculation, which is a factor in the background initialization process, remaining space calculations, and the like, is one example of a media space calculation, col 17 line 13).

Examiner's Note

The referenced citations made in the rejection(s) above are intended to exemplify areas in the prior art document(s) in which the examiner believed are the most relevant to the claimed subject matter. However, it is incumbent upon the applicant to analyze the prior art document(s) in its/their entirety since other areas of the document(s) may be relied upon at a later time to substantiate examiner's rationale of record. A prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention. W.L. Gore & associates, Inc. v. Garlock, Inc., 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984). However, "the prior art's mere disclosure of more than one alternative does not constitute a teaching away from any of these alternatives because such disclosure does not criticize, discredit, or otherwise discourage the

solution claimed...." In re Fulton, 391 F.3d 1195, 1201, 73 USPQ2d 1141, 1146 (Fed. Cir. 2004).

Contact

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Henok G. Heyi whose telephone number is (571) 270-1816. The examiner can normally be reached on Monday to Friday 8:30 to 6:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa Nguyen can be reached on (571) 272-7579. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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**HGH** 

TAN DINH PRIMARY EXAMINER Page 17

11/28/07